STONESOFT

StoneGate™

StoneGate

SG-250/SG-200

Quick Start Guide

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Revision: SGHGS-250/200_100_15/06/2005

1. Introduction

Thank you for choosing Stonesoft's StoneGate™ High Availability Firewall and VPN.

The StoneGate security appliances are optimized for the most demanding network environments, yet easy to deploy, easy to use and centrally managed, making them extremely cost-effective. The product family includes a range of appliances from small office/branch office systems to high-end enterprise firewall and VPN gateways.

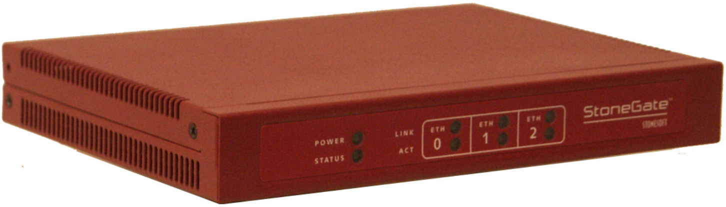
The following firewall/VPN devices are available:

- SG-3000/SGS-3000
- SG-1000/SGS-1000
- SG-570/SGS-570
- SG-500/SGS-500
- SG-250/SGS-250
- SG-200/SGV-200/SGS-200
- A "V" designator (for example, SGV-200) indicates that particular model is customized for operating a VPN only.
- An "S" designator (e.g., SGS-500) indicates that that particular model is customized for operating a Single Site installation (SGS).

Note – The SG-250 and the SG-200 appliance families are treated as the same in this installation guide as are the SGV models. When settings for the SG-250 appliance family differ from the SG-200, or SGV models from SG models, they are stated separately.

ILLUSTRATION 1 SG-250

ILLUSTRATION 2 SG-200/SGV-200/SGS-200



This guide is designed to show you how to set up quickly the device. Then more detail is given in order to familiarize you better with the SG-250/SG-200.

- Section *2. Before You Begin*, on page 5, gives recommendations on how to ensure proper operation of the device.
- Section *3. Initial Configuration*, on page 7, describes how to initially configure the device so that you can continue the installation with the *StoneGate Installation Guide*.
- Section *4. Device Introduction*, on page 19, gives an introduction to the device features in more detail.
- Section *5. System Safety*, on page 22, lists safety precautions you must be aware of.
- Section *6. System Specifications*, on page 24, describes the system specifications in more detail.

2. Before You Begin

You should inspect the box the Stonesoft SG-250/SG-200 was shipped in and note if it was damaged in any way. If the device itself shows damage you should file a damage claim with the carrier who delivered it. Likewise, you should confirm that the Stonesoft anti-tamper tape on the chassis is intact.

Decide on a suitable location for the Stonesoft SG-250/SG-200. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise, and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. It is recommended to use a regulating uninterruptible power supply (UPS) to protect the device from power surges, voltage spikes and to keep your system operating in case of a power failure.

2.1 SGS-Specific Information

With StoneGate Appliance Solution for Single Site you get one POS (Proof-Of-Serial number) attached to the appliance, that combines the licenses of the Local StoneGate Management Center (SMC) and the StoneGate Appliance. The local SMC can manage a single gateway or a cluster on that one site. The SMC needs to be installed on hardware of its own (see the specifications below). Should you want to install a cluster, you need to select same type of appliance for additional nodes, as you have purchased for this initial setup (e.g., SG-200, SG-500-50, SG-500-100).

Technical Specifications of the SMC

The latest hardware requirements and recommended platform hardware for this edition of StoneGate can be found on our website at http://www.stonesoft.com/products/StoneGate/Technical_Requirements.

Basic Management System Hardware Requirements

Management Server: Pentium II processor or higher recommended (suggested minimum processor speed is 500 MHz) or equivalent on a non-Intel platforms

Log Server: Pentium III processor or higher is recommended (suggested minimum processor speed is 700 MHz) or equivalent on a non-Intel platform.

- A mouse or pointing device (for GUI only)

- SVGA (800x600) display or higher (for GUI only)
- 256 MB RAM minimum (512 MB recommended, for larger installations 1 GB recommended)
- Disk space of Management Server database: 50 MB recommended
- Disk space of Log Server database (minimum suggested):
    - For evaluation use: 4 GB
    - For normal use: 20 GB (separate hard disk recommended)
    - For direct archiving with high volumes: separate disk for archive files, 80 GB or greater

Operating Systems

StoneGate Management System supports the following operating systems and versions - detailed information about supported versions and service packs can be found at http://www.stonesoft.com/products/StoneGate/Technical_Requirements:

- Microsoft® Windows® XP (U.S. English)
- Microsoft Windows 2000 (U.S. English)
- Windows NT® 4.0 (U.S. English)
- Red Hat® Linux®
- Sun. Solaris

3. Initial Configuration

Your StoneGate SG-250/SG-200 comes pre-loaded with StoneGate engine software. However, before a security policy can be loaded on the device you have to perform the initial engine configuration. For SGS models you also need to install the Management Server **before** you can proceed with the initial engine configuration.

3.1 Configuration Overview

The initial engine configuration involves the following steps:

1. Installing the Management Server (**for SGS only!**)
2. Defining the firewall on the Management Server
3. Saving the initial configuration
4. Connecting the cables
5. Setting up a terminal
6. Starting up the device
7. Performing the initial using the configuration wizard

3.2 Installing the Management Server

This step is only done for the Single Site Solution (SGS). If you are not using SGS skip this step and continue with the next one Section *3.3 Defining Firewalls on the Management Server*, on page 7.

Install the Management Server, the Log Server(s), and the GUI client. The detailed installation instructions can be found in the *StoneGate Installation Guide*. For more thorough explanation on using StoneGate, please refer to the *StoneGate Administrator's Guide* and the *Administrator's Reference*.

After installing the Management Server for SGS continue on to the next step Section *3.3 Defining Firewalls on the Management Server*, on page 7.

3.3 Defining Firewalls on the Management Server

Before the engine can be configured the corresponding firewall or firewall cluster element must be defined on the Management Server. For more information, see Chapter 5, *Defining a Single Firewall or Firewall Cluster* in the *StoneGate Installation Guide*.

Caution – Due to memory constraints, SG-250/SG-200-class appliances lack enough free swap space to pass the Free Swap Space test that is enabled by default when defining firewall clusters. Therefore, you need to disable the Free Swap Space test in the Management Server before installing the security policy on to a cluster of appliances. In the **StoneGate Control Panel**, open up the appliance cluster's properties, then **Tester Settings** and disable the **Free Swap Space** test.

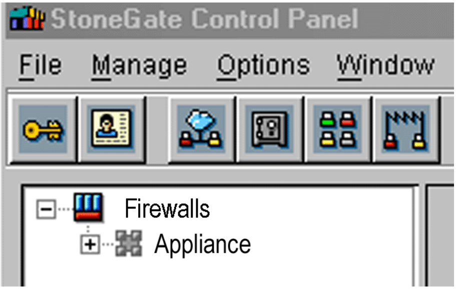
3.4 Saving the Initial Configuration

After the firewall or firewall cluster element has been defined on the Management Server, the initial configuration data must be generated. This initial configuration data includes the key fingerprint and the one-time password for contacting the Management Server.

▼ To generate initial configuration information:

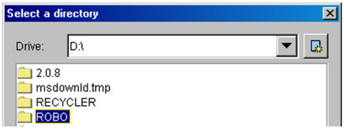
1. Start the StoneGate GUI, the Control Panel appears.

ILLUSTRATION 3 StoneGate Control Panel



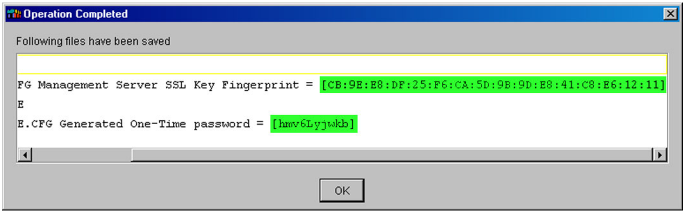
2. On the control panel, right-click on the name of the firewall and click **Save Initial Configuration**. The Select a Directory window appears.

ILLUSTRATION 4 Select a Directory Window



3. Choose the directory where you want to save the initial configuration data and click **OK**. The Operation Completed window appears.

ILLUSTRATION 5 Operation Competed Window



Following files have been saved

```
FG Management Server SSL Key Fingerprint = [CB:9E:E8:DF:25:F6:CA:5D:9B:9D:E8:41:C8:E6:12:11]
E
E.CFG Generated One-Time password = [hmv6Lyjwkb]
```

4. Write down the one-time password. The person who performs the initial configuration on the engine will need it.

Note – Other important information, such as the Management Server SSL Key Fingerprint, is stored in the initial configuration data that you saved earlier.

5. If you will not be performing the engine configuration personally, send the initial configuration data, including the one-time password, to the person who will perform the configuration.

Caution – Send this information in a secure way!

3.5 Connecting the Cables

If unsure where to make the proper connection for the SG-250 device refer to Illustration 16. For the SG-200/SGV-200/SGS-200 device refer to Illustration 17.

▼ To connect the cables:

1. Connect the network cables to the LAN ports.
2. Connect the console cable to the serial port.
3. Connect the power cable.

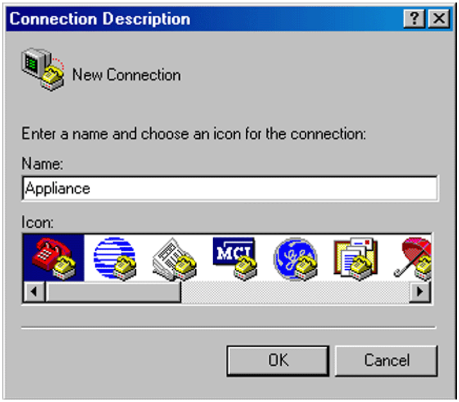
3.6 Setting up a Terminal

Because the StoneGate device has no keyboard, mouse, or display adapter, you must use a separate machine, such as a laptop, as a terminal.

▼ To set up a terminal:

1. Plug the serial port cable leading from the serial port (6) of the device into the corresponding serial port on your terminal machine.
2. Start a terminal program, such as HyperTerminal, on the terminal machine. (HyperTerminal is included, by default, in Microsoft Windows, but it is also possible to use other programs.)
3. Define a new connection. Illustration 6 shows how this is done in HyperTerminal.

ILLUSTRATION 6 New Connection



Connection Description

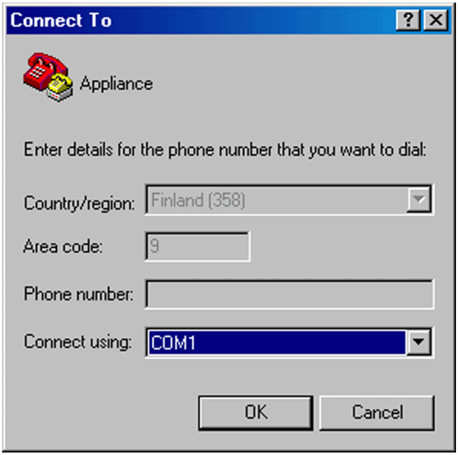
New Connection

Enter a name and choose an icon for the connection:

Name: Appliance

4. Choose to connect through the serial port (e.g. COM1). Illustration 7 shows how this looks in HyperTerminal.

ILLUSTRATION 7 Connect To Window



Enter details for the phone number that you want to dial:

Country/region: Finland (358)

Area code: 9

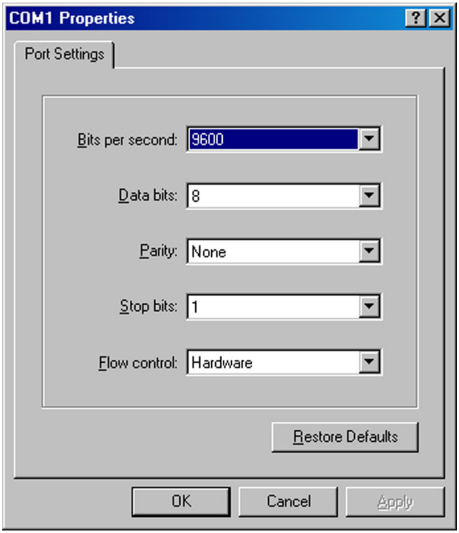
Phone number:

Connect using: COM1

5. Set the port settings as follows:
   - Bits per second: **9600**
   - Data bits: **8**
   - Parity: **None**
   - Stop bits: **1**

Illustration 8 shows how this looks in HyperTerminal.

ILLUSTRATION 8 Port Settings



Bits per second: 9600

Data bits: 8

Parity: None

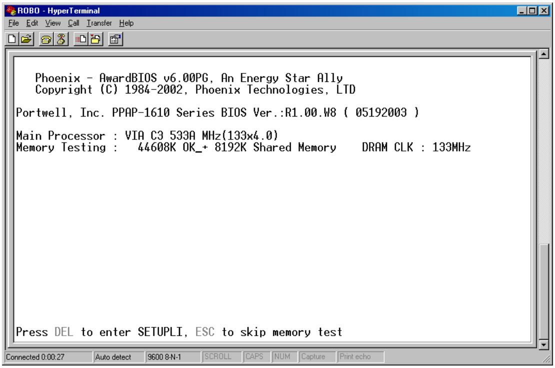
Stop bits: 1

Flow control: Hardware

6. At this point, you should be ready to start up the device. Flip the power switch on the back of the device, which should begin to boot. You should be able to see this in your terminal window, as shown in Illustration 9.

Caution – We strongly recommend using the `reboot` and `halt` commands in order to reboot and shut down the engine respectively. The use of the `init` command may cause serious damage to the engine.

ILLUSTRATION 9 Device Booting



```
    Phoenix - AwardBIOS v6.00PG, An Energy Star Ally
    Copyright (C) 1984-2002, Phoenix Technologies, LTD

Portwell, Inc. PPAP-1610 Series BIOS Ver.:R1.00.W8 ( 05192003 )

Main Processor : VIA C3 533A MHz(133x4.0)
Memory Testing :   44608K OK_+ 8192K Shared Memory    DRAM CLK : 133MHz








Press DEL to enter SETUPLI, ESC to skip memory test
```

3.7 Performing the Initial Configuration

By this point, you should have done the following:

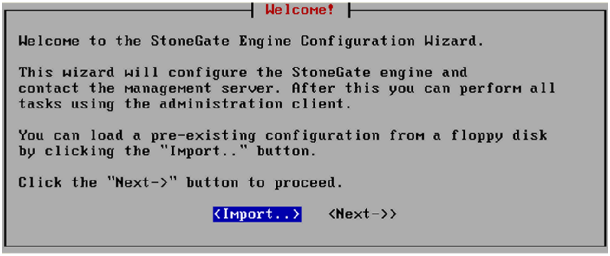
- defined the firewall on the Management Server,
- saved the initial configuration information
- connected cables
- set up a terminal
- started up the device

Now you are ready to perform the initial configuration.

▼ To start the initial configuration:

1. Once the device has fully booted, you should see the Engine Configuration Wizard, as shown in Illustration 10.

ILLUSTRATION 10 Engine Configuration Wizard



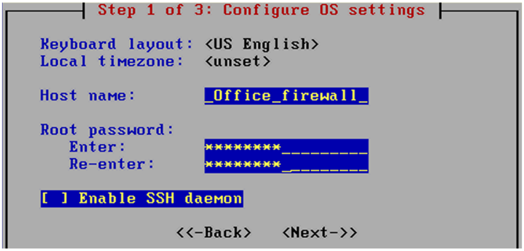
```
Welcome!

Welcome to the StoneGate Engine Configuration Wizard.

This wizard will configure the StoneGate engine and
contact the management server. After this you can perform all
tasks using the administration client.

You can load a pre-existing configuration from a floppy disk
by clicking the "Import.." button.

Click the "Next->" button to proceed.

<Import..>    <Next->>
```

2. Choose **Next**. The Configure OS settings screen is displayed.

Note – It is not possible to use the import feature because the device has no floppy drive.

3.7.1 Configuring OS Settings

ILLUSTRATION 11 Configure OS Settings Screen



```
Step 1 of 3: Configure OS settings

Keyboard layout:  <US English>
Local timezone:   <unset>

Host name:        _Office_firewall_

Root password:
   Enter:         ********_________
   Re-enter:      ********_________

[ ] Enable SSH daemon

          <<-Back>    <Next->>
```

▼ To configure OS settings:

Note – It is not possible to change the keyboard layout—this setting is irrelevant because the device has no keyboard.

1. Configure the timezone:

   1.1 In the Configure OS Settings window, highlight the **Local timezone** line and press ENTER.

1.2 Select the timezone and press **ENTER**.

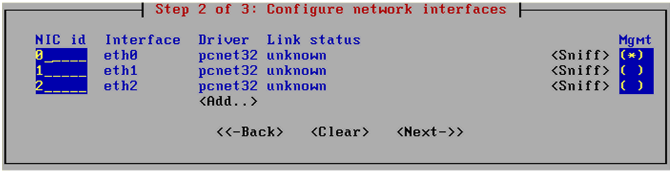
2. Type the host name of the engine machine in the Host name field.

Note – The host name that you enter here should match the one defined on the Management Server. (This also applies to the other properties in the configuration.) You can check this by looking either at the management GUI itself or by looking at the saved initial configuration data.

3. In the Password field, enter a password for the root user and re-enter the password for confirmation in the second field.
4. You will then need to decide whether to enable the SSH daemon for SSH connections to the engine. By default this feature is disabled. To enable SSH daemon, highlight the line and press SPACEBAR to select it. An asterisk (*) appears to indicate that the daemon is enabled.
5. Select **Next** and press ENTER to continue. The Configure Network Interfaces screen appears.

3.7.2 Configuring the Network Interfaces

ILLUSTRATION 12 Configure Network Interfaces Screen



```
            Step 2 of 3: Configure network interfaces

NIC id  Interface  Driver  Link status                            Mgmt
0_____  eth0       pcnet32 unknown                        <Sniff> (*)
1_____  eth1       pcnet32 unknown                        <Sniff> ( )
2_____  eth2       pcnet32 unknown                        <Sniff> ( )
                   <Add..>

                     <<-Back>    <Clear>    <Next->>
```

▼ To configure the network interfaces:

Note – It is not necessary (or possible) to add interfaces or device drivers. This information has been pre-configured to match the device.

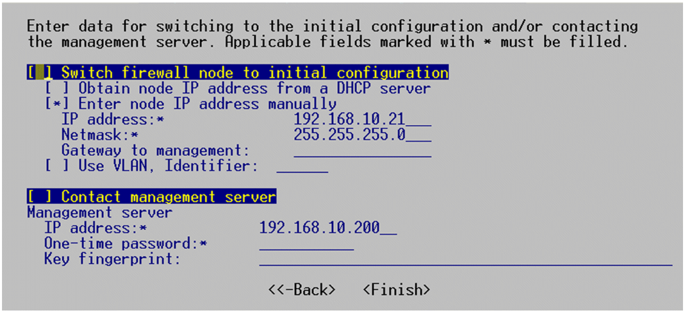
1. Assign NIC IDs to the network interfaces by typing the ID number in the field on front of each network interface.

Tip: The Sniff option can be used for troubleshooting the network interfaces. Select Sniff on an interface to run network sniffer on that interface.

2. To define the Management interface, highlight the interface's **Mgmt** column and press SPACEBAR to select it. An asterisk (*) appears to indicate the management interface.
3. Highlight **Next** and press ENTER to continue. The Prepare for Management Contact screen appears.

3.7.3 Contacting the Management Server

ILLUSTRATION 13 Prepare for Management Contact Screen



```
Enter data for switching to the initial configuration and/or contacting
the management server. Applicable fields marked with * must be filled.

[ ] Switch firewall node to initial configuration
  [ ] Obtain node IP address from a DHCP server
  [*] Enter node IP address manually
    IP address:*                 192.168.10.21___
    Netmask:*                    255.255.255.0___
    Gateway to management:       ________________
  [ ] Use VLAN, Identifier:    ______

[ ] Contact management server
Management server
  IP address:*               192.168.10.200__
  One-time password:*        ___________
  Key fingerprint:           ________________________________________________

                        <<-Back>    <Finish>
```

▼ To contact the Management Server

1. Select the **Switch to initial configuration** checkbox to activate an initial configuration.

Tip: If you run the `sg-reconfigure` command later, you can choose to:

- switch to an initial configuration by selecting the checkbox.
- use the current configuration by unselecting the checkbox. In this case, the currently active security policy will remain active. All other changes (host name, time zone, SSH daemon, NIC mapping, management contact, etc.) will take effect after pressing the **Finish** button.

2. Define the IP address used for the management connections to the firewall node.

- *Dynamic IP Address*: Select **Obtain node IP address from a DHCP server** and then continue on with after the Static IP-only steps. The DHCP server will automatically assign the IP address and netmask.
- *Static IP Address*: Select **Enter node IP address manually** and then continue below for the Static IP-only steps. The IP address must be the same as specified control IP address in the firewall element on the Management Server.

3. (Static IP-only) Next, define the netmask for the IP address used for the management connections to the firewall node. For this example, we are using the netmask **`255.255.255.0`**.
4. (Static IP-only) Define the address of the default gateway needed for the firewall engine to contact the Management Server. If the engine and the Management Server are on the same network, you can leave this line empty.
5. Highlight **Contact Management Server** and press SPACEBAR to enable the initial connection to the Management Server. During this contact, the trust relationship is established between the engine and the Management Server. An asterisk (*) indicates that the option is active.
6. In the **One-time password** field, enter the password for contacting the Management Server. The password is engine-specific and can be used only for one initial connection to the Management Server.
7. Optionally, enter the Management Server certificate’s fingerprint for verification.
8. To complete the configuration, highlight **Finish** and press ENTER.

3.7.4 Verifying Management Connections

If the initial Management Server contact was selected, the firewall engine tries to connect to the Management Server. If the initial management contact fails for some reason, the configuration can be started again with the `sg-reconfigure` command.

If the firewall cannot communicate with the Management Server and you receive a “connection refused” error message. Make sure that the one-time password is correct and the Management Server IP address is reachable from the node.

After a successful Management Server contact, the firewall engine installation is complete and ready for security policy upload from the

Management system. This is displayed in the GUI Control Panel; the node's status has changed from *Unknown* to *Not Configured* (no security policy is installed yet), and the connection state is *Connected* indicating that the Management Server is able to connect to the node.

For more information on creating and installing a security policy, please see the *StoneGate Administrator's Guide*.

Caution – Do not forget to to disable the **Free Swap Space** test in the Management Server if you configure the appliances in a cluster.

4. Device Introduction

4.1 Overview

The Stonesoft SG-250/SG-200 is a high quality network security device designed for use in branch offices and other locations that do not have full-time technical staff. Each Stonesoft SG-250/SG-200 is designed for maximum reliability and minimal maintenance.

SGS can be used as a single site FW/VPN solution. The Management Server SW needs to be installed on a seperate HW server.

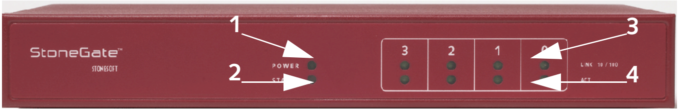
Caution – Never open the device chassis! There are no user serviceable parts inside. Opening the chassis will also void your warranty.

4.2 Front Panel

Description of the SG-250 front panel

Shown in Illustration 14 is the front panel of the SG-250.

ILLUSTRATION 14 Front Panel of the SG-250



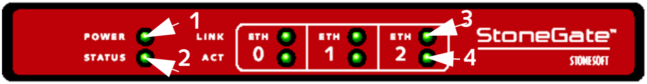
The following parts are located on the front of the SG-200/SGV-200/SGS-200:

1. Power indicator LED
2. Status indicator LED
3. Network link indicator LEDs
4. Network activity indicator LEDs

Description of the SG-200/SGV-200/SGS-200 front panel

Shown in Illustration 15 is the front panel of the SG-200/SGV-200/SGS-200.

ILLUSTRATION 15 Front Panel of the SG-200/SGV-200/SGS-200



The following parts are located on the front of the SG-200/SGV-200/SGS-200:

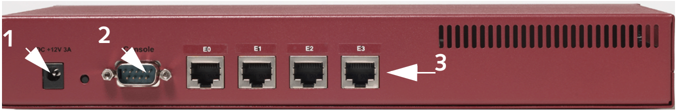
1. Power indicator LED
2. Status indicator LED
3. Network activity indicator LEDs
4. Network link indicator LEDs

4.3 Back Panel

Description of the SG-250 back panel

Shown in Illustration 16 is the back panel of the SG-250.

ILLUSTRATION 16 Back Panel of the SG-250



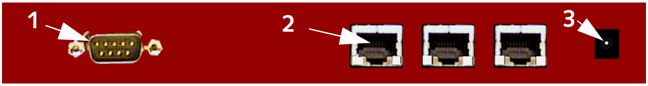
The following parts are located on the back of the device:

1. Power supply input (12V, 3A, 36W)
2. RS-232 serial port connector (DB9)
3. LAN ports (4) RJ-45 Ethernet connectors

Description of the SG-200/SGV-200/SGS-200 back panel

Shown in Illustration 17 is the back panel of the SG-200/SGV-200/SGS-200.

ILLUSTRATION 17 Back Panel of the SG-200/SGV-200/SGS-200



The following parts are located on the back of the device:

1. RS-232 serial port connector
2. LAN ports (3) RJ-45 Ethernet connectors
3. Power supply input (DC 5V, 3A)

5. System Safety

The following safety information and procedures should be followed whenever working with electronic equipment. However, please be advised that StoneGate Appliances are not end-user serviceable, and you should never open the appliance chassis for any reason. Doing so will void any hardware warranty that may be associated with your appliance.

5.1 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the Stonesoft SG-250/SG-200 from damage:

- Be aware of the locations of the power on/off switch as well as the room's emergency power-off switch, disconnection switch, or electrical outlet. If an electrical accident occurs, you can then quickly cut power to the system.
- Do not work alone when working with high voltage components.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.
- The power supply cord must include a grounding plug and must be plugged into a grounded electrical outlet.

Caution – Never open the device chassis! There are no user serviceable parts inside. The chassis must be in place to ensure proper cooling. Opening the chassis will also void your warranty.

5.2 General Safety Precautions

Follow these rules to ensure general safety:

- Keep the area around the Stonesoft SG-250/SG-200 clean and free of clutter.
- We recommend using a regulating uninterruptible power supply (UPS) to protect the device from power surges, voltage spikes, and to keep your system operating in case of a power failure.

5.3 ESD Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. Use a grounded wrist strap designed to prevent electrostatic discharge.

Note – It is highly recommended to use a UPS (Uninterruptible Power Supply) in critical environments with your StoneGate appliance. If after a brief power outage your StoneGate appliance only partially starts up (for example, the power light is on, but the NIC LEDs are off and the appliance does not connect) turn the appliance off for five seconds and then back on. This will resolve the power issues.

5.4 Operating Precautions

Care must be taken to assure that the chassis cover is in place when the SG-250/SG-200 is operating to ensure proper cooling. Out of warranty damage to the SG-250/SG-200 system can occur if this practice is not strictly followed.

We strongly recommend using the `reboot` and `halt` commands in order to reboot and shut down the engine respectively. The use of the `init` command may cause serious damage to the engine.

6. System Specifications

This section describes the hardware you should have in your product kit. It includes a description of all external parts on the appliance as well as the significant internal parts.

6.1 Included Items

Your box should include the following hardware:

1. SG Device (1 each)
2. Power Cord/Power Adapter
3. Network Cables
4. Console Cable
5. *Quick Start Guide* (1 each)

If your box has missing or damaged parts be sure to inform us as soon as possible. You should confirm that the Stonesoft anti-tamper tape on the chassis is intact. Refer to the warranty for more information.

6.2 Hardware Specifications

See Table 1 for more information.

TABLE 1 Hardware Specifications

Specifications	SG-250	SG-200
CPU Board	VIA C3 400A MHz	NS Geode GX1-300MHz
Memory	128 MB on board	128 MB on board
Storage Device	Compact Flash	Compact Flash
Compact Flash	256 MB	256 MB
Ethernet Port	4 x Realtek RTL8139C 10/100	3 x Realtek RTL8139C 10/100
Serial Port	1 x DB9	1 x DB9
LEDs	Ethernet ACT/LINK, Power, Status	Ethernet ACT/LINK, Power, Status

Specifications	SG-250	SG-200
Power Supply	External Switching Power Adapter, +12V, 3A, 100-240V, 50-60 Hz	External Switching Power Adapter, 100-240V, 50-60 Hz
Dimensions	Width: 290 mm (11.6 in.) Height: 43 mm (1.72 in.) Depth: 157 mm (6.26 in.)	Width: 210 mm (8.4 in.) Height: 30 mm (1.2 in.) Depth: 157 mm (6.26 in.)
Weight	1.4 kg (3.08 lb.)	0.97 kg (2.12 lb.)
Operating Temperature	0–40ºC	5–40ºC
Humidity	5–95% RH, non-condensing	5–95% RH, non-condensing
Storage Environment	-20–70ºC. 5–95% RH, non-condensing	0–70ºC. 5–95% RH, non-condensing
Certification	CE/FCC Class B	CE/FCC/CB